

THE
PAN-PACIFIC ENTOMOLOGIST

Published by the
Pacific Coast Entomological Society
in co-operation with
The California Academy of Sciences

C O N T E N T S

HICKS, NOTES ON RARE WESTERN SPHECID WASPS.....	97
SAYLOR, A NEW COENONYCHA FROM NEVADA.....	102
BATES, NOTES ON AMERICAN TRYPETIDÆ, III.....	103
HATCH, TWO REMARKABLE BLIND BEETLES FROM OREGON.....	115
HATCH, MONILLIPATROBUS HATCH A SYNONYM OF PSYDRUS LEC.	118
LEECH, BRITISH COLUMBIAN RECORDS OF CARABIDÆ	
AND HYDROPHILIDÆ	120
BLAISDELL, A NEW TRIOROPHID FROM DEATH VALLEY.....	125
EXLINE, THREE NEW SPECIES OF CYBÆUS.....	129
SAYLOR, A NEW GENUS AND TWO NEW SPECIES OF	
COLEOPTRA FROM CALIFORNIA.....	132
KNOWLTON, NOTES OF WESTERN APHIDS.....	135
WYMORE, A NEW SPECIES OF PLATYPEDIA.....	143
DOUDOROFF, NOTES ON TWO LOCAL BUTTERFLIES.....	144

THE PAN-PACIFIC ENTOMOLOGIST

Published quarterly in January, April, July and October by the Pacific Coast Entomological Society in co-operation with the California Academy of Sciences.

Domestic and foreign subscriptions \$2.00 in advance. Subscriptions should be sent to the treasurer, E. R. Leach, Department of Entomology, California Academy of Sciences, Golden Gate Park, San Francisco, California. Make checks payable to the "Pan-Pacific Entomologist."

Manuscripts for publication and communications regarding non-receipt of numbers, change of address, requests for sample copies, etc., should be addressed to the editor, Mr. E. P. Van Duzee, California Academy of Sciences, Golden Gate Park, San Francisco, California. Advertisements will be accepted for the back cover pages. For rates address the editor or treasurer.

Twenty-five copies or more of author's extras will be furnished free on request. Additional copies will be supplied at cost of publication if a request is received with the manuscript.

Subscribers failing to receive their numbers will please notify the editor at as early a date as possible.



PUBLICATION COMMITTEE PAN-PACIFIC ENTOMOLOGIST

E. O. ESSIG, *Chairman*

G. F. FERRIS

R. A. DOANE

E. C. VAN DYKE

F. E. BLAISDELL

REGIONAL MEMBERS

DR. VASCO M. TANNER, Provo, Utah

MR. JEANE D. GUNDER, Pasadena, California

J. C. CHAMBERLIN, Twin Falls, Idaho

E. P. VAN DUZEE, *Editor*

E. C. VAN DYKE, *Associate Editor*

E. R. LEACH, *Treasurer*



Published at the California Academy of Sciences, Golden Gate Park, San Francisco, California.

Entered as second-class matter, February 10, 1925, at the postoffice at San Francisco, California, under Act of August 24, 1912.

The Pan-Pacific Entomologist

Vol. XI, No. 3

July, 1935

NOTES ON RARE WESTERN SPHECID WASPS

BY CHARLES H. HICKS

University of Colorado

The Sphecid, *Sphex craspedotus*, is seemingly a rare species of digger wasp, some of the habits of which the present writer studied in 1929. Professor Fernald* characterizes the structure of the insect, in part, as follows: "This interesting species is the only one from North America in which there are no teeth or even traces thereof on the lower margin of the clypeus . . . Another unusual feature is that, while the segments farther forward may be quite dark, the last abdominal segment of the eight specimens seen was entirely ferruginous." He states that the insect has been reported only from California, especially at or near Los Angeles, and gives June 26, August 3 and August 28 as dates of capture. Based on the study of the eight females, he found the species to be somewhat below the average in size in the genus and these individuals to vary from 15 to 19 mm. in length.

My study of the nesting habits of this species involved three nesting females and their nests. These nests were obtained and studied after the nesting wasps had been observed on June 25-27, and on July 3. Each nest was located near the First National Studios along the Los Angeles River near Burbank, California. They were dug in the somewhat loose sand of the river bed or bank. The wasp observed and taken on June 26 is one of the paratypes of the species, the nest of which forms a basis for the following description.

The wasp was found provisioning her nest late in the morning of June 25 and also on the 26th. She came flying with a lepidopterous larva in her jaws at 11:29 a. m. on the second day. Alighting on the sand close to her nest, she released the prey near to the concealed and temporarily closed tunnel entrance. She removed a sand plug, backed in, grasped the larva

*Fernald, H. T. "The North American and West Indian Digger Wasps of the Genus *Sphex* (*Ammophila* auct.)". E. A. Painter Co. Deland, Florida, pp. 1-167. Pls. 1 and 11. Figs 1-39, 1934,

berry tree. The observations were made at 12 o'clock at a time when the wasp was filling in the entrance tunnel to her nest. She did so by using an old hackberry seed to close the upper end of the shaft. Sand was scraped in over this, and some score or more of objects were brought to further cover and conceal the nest site. There was no tool using noted at this time.

Later, the same summer, on and about July 25 wasps of this species were found in Gregory Canyon in the mountains west of Boulder. These were digging nests on the side of a slope near a foot and bridle path. One female removed seven loads of soil between 10:48 and 10:49 a. m. and again seven loads in the minute between 10:52 and 10:53. She worked before, between, and after these stated periods but was caught for identification before her nest was completed. The soil was removed with her mandibles and carried away and downhill between them (possibly assisted by her fore legs) as she flew to the place of deposit. This spot was about four feet distant and the impact of the released load could be heard as it struck the ground. The release was made a few inches above the surface, and immediately the wasp flew back for more. One load was so large and heavy that the wasp was not able to fly with it after a typical and normal fashion and only reached the refuse spot by short flights and hops.

Another wasp was found as she started a tunnel. She bit the soil loose and removed it in the manner stated above. A loud buzzing was produced when she tried to remove a large pebble which was in the path of her progress. The number of loads carried out at various periods of one minute each were six, five, five, and six. These were carried downhill also, and each time she was seen to go and to return over much the same path. At one time she stopped her work, flew to a sumac bush growing nearby, walked over the leaves dragging her feet as though trying to remove adhering dust and soil. Then she moved to a stem where the cleaning continued, although by means of brushing one leg against another and later both against her body.

At 11:12 and after a short period of work she had dug her tunnel to a depth greater than that of the length of her body. After this time and before I caught her, she increased the speed

of her activity. This was thought to have been caused by the rapid increase of air and ground temperature. It was noted that this wasp was not readily frightened at my proximity and that it was not disconcerted by my attentions.

S. aculeatus was found at Owens Lake on September 27. This specimen was a female which appeared old and worn. Still earlier in the same month (September 13) at Fort Collins, Colorado, a female was found "sleeping" on a stem in late afternoon. She had grasped the branch with her mandibles, her body nearly at right angles to it, although only the hind pair of legs had released their clasp and aid in support.

It would appear from the dates of capture that in Boulder County, Colorado, we have at least two generations of this wasp a year. This and other facts await further study and it is hoped that the work of another season may do much to clear up many points in question.

The tool using habits of the digger wasps has always been of interest to students of insects since it was first reported by Professor Williston in 1892. It has since been observed a number of times. Among those who have seen and reported this behavior are: S. W. Williston (1892); G. W. and E. G. Peckham (1898); Cart Hartman (1904); H. B. Hungerford and F. X. Williams (1912); Phil and Nellie Rau (1918); G. C. and E. G. Wheeler (1924); and C. H. Hicks in two separate reports and species (1932). T. Pergande (1895) also, has been credited with a report on the tool using habit. I have read the paper by Pergande many times and have been unable to find grounds for this assumption.

Professor Hartman observed the use of a pebble as a tool by the wasp, *S. procerus* in 1904. Wheeler and Wheeler in 1924 observed it in this same species reported by the name of *S. gryphus*. It is with pleasure that I support these records by observations of my own made on this same species at Boulder on August 4, 1933. *S. aberti* and *S. procerus* are the two American digger wasps whose habits are probably best known. *S. aberti* is the species studied by Williston in 1892 (by name of *Ammophila yarrowi*) and whose tool using habits has attracted much attention. A much needed study at this time is a critical

and detailed investigation and comparison of nest-closure and tool-using among our digger wasps.

The writer is pleased to express his thanks to Professor H. T. Fernald who has determined the specimens reported in this account and who has generously aided with reference material, and to Professor Norma LeVeque for critically reading the manuscript and for helpful suggestions.

A NEW COENONYCHA FROM NEVADA

(Coleoptera; Scarabaeidæ)

BY LAWRENCE W. SAYLOR

University of California, Berkeley

Cœnonycha stohleri Saylor, new species

Oblong-oval, piceous, shining, with faint greenish lustre. Front and clypeus very coarsely densely variolately punctured; vertex impunctate; apex reflexed and subtruncate, angles obtuse but very distinct. Antennæ 8-segmented, the club much smaller than the funicle, the fourth segment as long as the second and third combined. Thorax with disc sparsely moderately coarsely punctured, a little more closely punctured at sides, some of the punctures with short recumbent hairs; each side near lateral angulation with a small fovea; sides subangulate at middle, front angles acute and produced, hind angles completely obliterated and the hind part broadly arcuate. Elytra two and one-half times longer than thorax, surface coarsely rugose, with sparse suberect white hair; apex of each elytron broadly rounded, both towards the suture and the outer margin. Pygidium polished, with sparse erect white hair. Abdomen sparsely punctured, with short suberect hair. Tarsal claws cleft, the inferior tooth shorter. First segment of front tarsi strongly elongate; hind tarsi much longer than the tibiæ, first segment shorter than the next two combined. Hind tibial spurs spinose, one-half the length of the others. Length 5.5 mm.

The unique type, from White Rock Springs, Nye County, Nevada, May, 1931, and presented to me by Dr. R. Stohler, is in the collection of the California Academy of Sciences (No. 4010). This species can be confused with no other described species of the genus, since all others are some shade of brown or testaceous.